# WAS AUSTRALIA DISCOVERED IN THE SIXTEENTH CENTURY?

By EDWARD HEAWOOD, M.A.

FEW questions have exercised the minds of historical geographers more than that of the discovery of Australia. Whereas the first voyage to that country of which we have any authentic record took place in 1606, it has long been imagined, from indications on maps of much earlier date, that voyages—of which all record is now lost—were made considerably over half a century earlier, while if such were proved to have been the case, the honour of the discovery would be transferred from the Dutch, by whom the voyage of 1606 was carried out, to some other European nation, whose navigators had appeared earlier in that quarter of the globe. As is well known, the late Mr. R. H. Major, in the collection of documents edited by him for the Hakluyt Society in 1859, did more than any one to give currency to the idea of a discovery early in the sixteenth century; but his views have since met with wide acceptance, and the great probability of such a discovery has been generally allowed by subsequent writers, none of whom, however, appears to have yet undertaken a searching investigation into the grounds on which such opinion is based.

Without claiming any such character of completeness for the present contribution to the subject, it may still be not amiss to look briefly at the question as it now stands, and to point out certain lines of inquiry, which, if followed up by competent critics, might possibly lead to a further elucidation of its difficulties. The facts on which the idea above alluded to is based are briefly as follows. On a series of manuscript maps of the middle of the sixteenth century,* the region to the south and south-east of Java is occupied by a land of continental proportions, bearing round its coasts a fairly detailed nomenclature, apparently the outcome of some definite voyage of discovery. This land is separated from Java only by a narrow strait, and is actually joined in the north to Sumbawa. Although differing in minor points, all these maps present such a striking general resemblance as to leave little room for doubt that all were based on a single prototype. All are the work of a French school of cartographers, and the nomenclature is French with a certain admixture of Portuguese forms. From the fact that the map supposed to be the earliest in date (1530–36) contains the most marked signs of Portuguese influence, it has been supposed that the prototype was a Portuguese map, and that the discoveries intended to be pourtrayed were the work of navigators of that nation. Some, however, have held that the discoveries were more probably French. From a fancied resemblance of the coast-lines on these maps with those of Australia, but still more from the fact that Australia is the only large land in this quarter of the globe, it has been concluded that the coasts of Australia were first reached before the middle of the sixteenth century.

As regards the identification of the coasts with those of Australia, it may be pointed out that, setting aside differences of longitude as unimportant, and disregarding the evidently hypothetical southward extension of the coast-lines, the parts to which the definite nomenclature applies extend through 15° of latitude more than Australia and Tasmania combined. This would be a minor point were we dealing with the fanciful maps based largely on statements of old travellers, but in the case of charts supposed to be the result of a real survey, deserves at least to be noticed. Secondly, the fact that the northern point coincides roughly in latitude with Cape York

* Three of these maps, now in the British Museum, were last year published in facsimile by the late Mr. C. H. Coote, with explanatory letterpress.

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is manifestly accidental, since that point really represents Sumbawa. The agreement is the accidental and quite irrelevant one between the latitudes of Sumbawa and Cape York. Again, the average direction of the north-east coast differs by at least 20° from that of Queensland, the portion of Australia presenting the nearest resemblance in this respect; while, taken as a whole, the outlines present a much more striking resemblance if we turn the map through 90°, making the east north! As regards the nomenclature, which has also been called in as a means of identification, the only terms found of any aid in the attempt have been those which might apply almost to any coast in the world (Coste dangereuse, Coste des Herbaiges, etc.); while, lastly, a difficulty arises from the necessity of supposing at least two separate voyages of discovery, one on each coast, though absolutely no record of any such exists. Thus, after all, the argument rests almost entirely on the fact that early in the sixteenth century a certain unknown map-maker drew a large land, with indications of definite knowledge of its coasts, in the quarter of the globe in which Australia is placed.

The difficulty, of course, has been to account for this map in any other way, and the following suggestions are merely put forward as a possible indication of the direction in which an explanation might be found. It will be useful, at the outset, to lay stress on one or two known facts.

Firstly, we must remember the great influence still exercised by the early travellers and writers, especially Marco Polo, on the cartography of the early part of the sixteenth century. This is shown, on the one hand, by the number of large islands strewn broadcast over the ocean to the south-east of Asia by such map-makers as Schöner; and on the other, by the persistent belief in a southern continent manifested even before the voyage of Magellan, which led to the representation of masses of land in a somewhat higher latitude, often designated Regio Patalis, a term used by Roger Bacon in the thirteenth century. A second point to be borne in mind is the fertile source of confusion introduced by Marco Polo's nomenclature of the Sunda Isles, his Java Minor representing Sumatra, while through his ignorance of the south coast of Java, he spoke of that island as Java Major* with a circuit of 3000 miles. A second Java, apart from Sumatra, constantly recurs in maps even of the close of the sixteenth century. Again, it is self-evident that the maps of the French school, or at least their prototype, were pieced together from independent sources. In their northern parts they show well the knowledge of the archipelago possessed at the time by the Portuguese; while even if the large land represented were really Australia, its incorrect position with respect to the rest of the map would have been due to manipulation by the cartographer.† Lastly, it will be a help to remember that, as lately shown by Dr. Tomaschek in his introduction to the German translation of the 'Mohit,' the Portuguese maps of the period were to a large extent based on native charts and sailing directions.

With these facts before us, if we find a map of the period showing a large land to the south-east of Asia bearing the title Jave la Grande, the natural conclusion is that the map-maker has intended it for the Java Major of Polo; more especially

* It has been suggested that the names came to be so applied because Java was the original seat of the Javanese empire, which extended its influence also over the south part of Sumatra.

† Mr. Collingridge, who, though his conclusions may not be accepted, has brought together a useful body of facts in his 'Discovery of Australia,' suggests a political reason for the northward extension of Australia. But it may be observed that, on the supposition of fraudulent alteration of maps, it would have been as easy for the Portuguese to invent a new land as to distort a known one.

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if, as is the case with the French maps, we find a lesser Java closely adjoining. On other maps of the period the name Java Major is constantly applied in accordance with Polo's narrative. Therefore, apart from other considerations, the Jave la Grande of the French maps should represent Java. Now, the cartographer—starting from the idea, natural when Sumatra became well known under its true name, that the modern Java with its comparatively small area was the Java Minor of the old traveller—would naturally place his Java Major in the unoccupied region to the south. If he sought for details as to its contour in the representations of Java Major on the maps of the period, he would merely obtain a repetition of his own Java Minor, of which, therefore, we should find a reduplication on his map. Now, it is certainly remarkable that on the earliest known Portuguese map of the islands, we do find an instance of such reduplication, though arising from another cause. The map attributed to Pero Reinel applies the name Java to the southern end of Sumatra, which is shown as separated from the rest of the island, while the true Java, greatly exaggerated in width, appears to the south-east as Sumbawa, though that island appears also in its true place. The parallel between this known case and the one we are supposing is certainly very close.* Now, if we take the so-called "Harleian" map, probably the earliest of its type, and delete those parts which are evidently hypothetical (those about which no information is given), we do obtain a striking general resemblance to Java as known at the time, with the exception only that it slopes to the south-east at an angle of about 18° with the true direction. This is at least not a greater divergence than, as we have remarked, would be found if Australia were intended; and, more than this, we have a plausible means of explaining the deviation in the case of Java, in the native charts lately reconstructed by Dr. Tomaschek, which show the whole line of the Sunda islands as running in a south-east direction.

To account for such a use of his material by the cartographer, we should suppose the original map of Java to be a rough chart intended for the use of sailors, or resulting from a voyage of discovery along the coast; either with no scale or with one unintelligible to the copyist,† who would therefore fit it into his map in accordance with his preconceived ideas. That such charts were in existence at the time is shown by Dr. Tomaschek's work, as well as by a letter of Albuquerque, to which we shall recur presently.

The only European navigators whose ships are known to have visited Java before 1530 were the Portuguese, and it is to their maps that we must look for contemporary representations of its coasts. A good idea of the state of their knowledge about this time is supplied by Dr. Hamy's paper entitled "L'Œuvre Géographique des Reinel et la découverte des Moluques," which contains some interesting facts bearing upon the present question. The writer discusses the first voyage to the Spice islands—that of Dabreu in 1511—as described by Galvano in his history of the 'Discoveries of the World.' The expedition sailed down the eastern coast of Sumatra and along the north of Java, passing between the main island and Madura, and then proceeding eastwards past the chain of smaller islands in that direction. The supposed map of Reinel already alluded to shows the main results of the voyage, but more details are given in the charts of the Pilot Rodriguez, reproduced by Santarem in his well-known Atlas. Dr. Hamy quotes from

* A curious instance of the accidental shifting of the position of an island occurs on this same map. The island of Gunong Api (Ilha de Fugo) is shown in exactly the same relation to the false Sumbawa (Java) which it really bears to the true Sumbawa.

† It has been suggested that Ptolemy's great exaggeration of the size of Ceylon was due to his mistaking the intervals between the lines drawn across native charts for spaces of a degree.

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a letter of Albuquerque a statement which seems to show that Rodriguez, whose delineation of the islands is superior in many ways to that of his contemporaries, had to some extent drawn from native sources, especially from a large map by a Javanese pilot, which unfortunately was afterwards destroyed. Rodriguez's charts were on a large scale, so that we find already in existence—quite early in the sixteenth century—material such as could have been drawn upon by the French cartographer; while Parmentier's voyage of 1529 supplies the means by which such material could reach France. Dr. Hamy gives a map on which he shows in red the extent of coast-line known to the Portuguese in about 1519, and it is a striking fact that his red line, so far as Java is concerned, is absolutely identical in extent with the coasts shown on the French map on the supposition that Jave la Grande does represent Java.

As regards the contour of Jave la Grande, it is to be observed that, owing to the piecing together of the data by the cartographer, a certain amount of alteration must necessarily have been made in order to effect the junction with Sumbawa. The extreme northern portion must therefore be left out of consideration in comparing the form with that of Java. The most striking resemblance is to be seen in the south-west corner, where the bays and small islands are in close agreement with those on the coast of Java. The distance of Madura from the coast—if that island is supposed to be represented by the Isles de Mayna of the French map—is the most serious discrepancy, but this is small compared with the known shifting of positions on contemporary maps.* It is singular also that, with the other two groups further north, we have just the three islands or groups of islands, marked in red on Hamy's map as known to the Portuguese.

Coming next to the nomenclature of the French maps, we face peculiar difficulties, as the readings in many cases are evidently corrupt, and discrepancies exist between the different copies extant. This is not surprising when we think of the corruptions of names occurring in well-authenticated maps,† and that the maps we are now dealing with are possibly copies from a French prototype, itself based on Portuguese documents, which in their turn may have owed something to Arabic originals. Another difficulty arises from the paucity of names possessing any determinative value. A few points of interest however occur. One of the few legends appearing to record an actual place-name occurs near the great bay on the north-east coast, where we find the words Coste de Gracal. This exactly occupies the position of Gressie or Gressik (Agaçim of De Barros, Grece of many Portuguese and Dutch maps, Agracam of Mercator), which strangely enough was the first place on Java at which the Portuguese are known to have landed. The name was referred by Major (*Archæologia*, vol. xliv. p. 240) to a Provençal word meaning "bowl," but on the supposition that the original map-maker was a native of Provence, the case might merely be one of the substitution of a familiar for an

* See note on p. 423. Another instance might be given in the transference of two Javanese names—Tuban and Agaçim—to Celebes, on various maps of a somewhat later date.

† Perhaps the most singular corruptions are those concerned with the nomenclature of Bali and Lombok on maps of the period. In Galvano's account, Lombok is named Anjano (Aujane of Hakluyt), apparently from the great volcano Renjane, its most conspicuous feature. On certain maps this appears as Ancane, while in others again this is cut in two and applied to two islands, both names beginning with a capita ("Anc," "Ane"). In the Harleian chart it appears in conjunction with a corruption of the name of Bali, and the whole is read by Mr. Collingridge as "Anda ne barche" ("No boats go here"). The alteration in some maps of "Fin de iaoa" into "Fideida" is another striking instance of corruption.

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unfamiliar word. Again, on the west coast, we find on the French maps the Baie Bresill, and, though the frequent use of this word in the geographical nomenclature of the period makes us hesitate to found any argument thereon,* it is interesting to find, from the letter of Albuquerque above alluded to, that the Javanese map seen by Rodriguez, or at least the draught of it made by him, included the "Terra de Brasyll." It is possible that this really refers to the modern Brazil, but at this early date (1512) the name had certainly not come into general use as an appellation for that country, which was still known as "Terra Sancte Crucis." Traces at least of a dual use of the term about this time occur elsewhere, especially in the confusion shown by the author of the 'Copia der newen Zeitung,' who speaks of the land of Presill as situated near a strait (? the strait of Sunda), and as extending to Malacca. Mr. Collingridge, who quotes Andrea Corsali as mentioning a land of Brazil near the Malay archipelago, imagines that these indications refer to Australia; but from the fact that Brazil wood is a well-known product of the archipelago, any eastern land of Brazil would much more probably lie within that region. Again, the large island off the coast bears the name Lama, or Lame, on the French maps, and it is conceivable that this might represent the termination of Sumatra (Camatra),† which name frequently occurs with a break in the middle on maps of the period.

It is to be regretted that the early Portuguese and Dutch maps give very scanty details respecting the western end of Java, for as the nomenclature is particularly full on the corresponding coast of Jave la Grande, a comparison would be likely to prove interesting. The occurrence of Cap de Grace on this coast has led to the suggestion of a discovery by Provençal navigators, more especially as one copy of the map appears in the atlas of the Provençal pilot Guillaume le Testu. The French ship said to have reached the legendary "Island of Gold" soon after 1527 (*Journal*, vol. xi. p. 82) is at least as likely to have reached a point on the south-west coast of Java as to have discovered Australia. In this case we should suppose that French names had been added to a Portuguese chart by the French pilot.

On the supposition of a reduplication of Java, such as we have hinted at, we might expect to find a repetition of names on the west coast of Java itself, and on that of Jave la Grande, but here again the paucity of names on the former removes the opportunity for effective comparison. Still, it is remarkable that the only two names occurring in Western Java, the R. de St. P° (Pedro?) or Pierre, and Coste P°uro, should have their counterparts in Jave la Grande in the form of C. de St. Drao (or A°‡) and Coste Blanche. It is possible that some clue might be obtained by an examination of the early Portuguese voyages, with a view to explaining the use of the appellative San Pedro, though it is possible that the legend is a corruption of the word "padrao" (pillar), for we are told in Albuquerque's commentaries that the pilot Rodriguez so often alluded to was a man who "knew very well how to set up a memorial monument if it were required" (Hakluyt Soc. Ed., vol. iii. p. 162).

A word or two may be devoted to the islands shown on the French maps in the sea to the north-east of Jave la Grande, which seem to present examples of undoubted Portuguese words. The Yles de Aliofer are evidently named from the word Alojfar (Arabic taken over into Portuguese), "seed-pearl." The next group is named Y° de Tubaros—Isle of Sharks—in the Harleian map, and this is interesting in view of the comparatively early date of this particular map, for in another of the series

* It has been suggested that the "Baie Bresill" has been derived from the "Brasilie" applied to the supposed southern continent by Orontius Finaeus (1531).

† C on some old maps being hardly distinguishable from L.

‡ The variation in different French maps shows that there is some corruption here.

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(the so-called Henri II. map) the name has been translated Y$^{e}$ de Marsouyns (Isle of Porpoises). It is impossible to decide in what relation these islands stand to the other parts of the map. It may be intended either to show their supposed position with respect to Jave la Grande on the one hand, or the archipelago and Pacific ocean * on the other, or merely to indicate that islands whence certain commodities were obtained lay in the seas to the east. It is difficult to find any evidence respecting the application of such names by the Portuguese, and as both seed-pearls and shark's fins are well-known products of the archipelago, the names would apply equally to many islands. An island of Turtles figures in the narratives of the Portuguese historians, and in some modern maps a Turtle island is placed close to Bawean ("Isle of Swine" in Javanese), which would, on one supposition, correspond in position with the Y$^{e}$ de Tubaros. It does not seem impossible that the Portuguese may have mistranslated a native name in this case. A possible explanation of one of the names applied to the third group (Isles de Mayna, or Magaa) is that it is a corruption of the Ilhas das Maçans (Mace islands), by which name Banda was often known. In this case the name Saill applied to the smaller island near it might stand for Ceram, named Seillan in its proper place on the Harleian chart.

In conclusion, it may be observed that, though the divergence in size appears much more serious in the comparison of Jave la Grande with Java than with Australia, the lesser divergence in the latter case is really the more important, as in this the whole argument is based almost solely on considerations of size. In favour of the identification with Java is the fact that this puts no strained construction on the data, but supposes Jave la Grande simply to represent the island so named at the time. In any case, the slight reliance to be placed on the French maps with respect to outlying parts of the world, and the influence still exercised by the old writers, is shown by their delineation of Japan, the insertion of an Isle des Géants in the Southern Indian ocean, and of Catigara on the west coast of South America, as also by the fictitious coast-line of a southern continent with numerous bays and rivers, shown in the later versions. This should surely make us hesitate to base so important assumption as that of a discovery of Australia in the sixteenth century on their unsupported testimony.

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## OCEANOGRAPHY.†

By Sir JOHN MURRAY, K.C.B., F.R.S., D.SC., LL.D.

In his opening Address to the members of the British Association at the Ipswich meeting, the President cast a retrospective glance at the progress that had taken place in the several branches of scientific inquiry from the time of the formation of the Association in 1831 down to 1895, the year in which were published the last two of the fifty volumes of Reports containing the scientific results of the voyage of H.M.S. *Challenger*. In that very able and detailed review there is no reference whatever to the work of the numerous expeditions which had been fitted out by

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* In this case, the Isle of Sharks would, of course, represent the island of that name touched at by Magellan, and a comparison with other maps on which this is shown would seem to favour this view. The identification of the other groups would, however, be a difficulty.

† Presidential address to the geographical section of the British Association, Dover, September 14, 1899. Map, p. 472.

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